

ALLERGIC RHINITIS - EPIDEMIOLOGY AND ETIOPATHOGENIC SIGNIFICANT ISSUES

CRISTIAN ILIE COSTESCU¹, MARIUS RUS²

^{1,2}University of Oradea

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Abstract: Allergic rhinitis can be caused by several types of allergens such as pollen, mold, dust mites, dust, animal dander and cockroaches. Allergic reactions occur only if people have an "atopy", increased sensitivity or susceptibility to allergens. The causes of atopy and allergic reaction are not yet known. Most people who suffer from allergies have a family member who is allergic.

Cuvinte cheie: rinită alergică, vârsta

Rezumat: Rinita alergică poate fi cauzată de câteva tipuri de alergeni, precum polenul, mucegaiul, acarienii, praful, puful animalelor și gândacii. Reacțiile alergice au loc numai în cazul oamenilor care prezintă un „teren atopic” sensibilitate crescută sau susceptibilitate la alergeni. Încă nu se cunosc cauzele apariției terenului atopic și ale reacțiilor alergice. Majoritatea persoanelor care suferă de alergii au printre membrii familiei persoane care au alergii.

INTRODUCTION

Allergic rhinitis (often called the "hay fever") is an overreaction of the immune system to the particles of inspired air.

Normally, the immune system protects the body against viruses and bacteria by producing antibodies to fight them. In allergic rhinitis, the immune system begins to fight substances that normally are not harmful, such as dust mites and pollen (allergen), as if they would start to attack the body.

This overreaction causes inflammation and symptoms that mainly affects the nose and eyes, ears, the throat and the mouth. It is possible that the body will not have an allergic reaction the first time the allergen substance is inhaled, such as the grass pollen. However, the next time the inhalation of pollen occurs, congested nose or difficult breathing may appear. They appear as an immune response.(1,2)

It is possible that rhinitis has been installed for many years (chronic rhinitis). Meanwhile, it is possible to reduce the sensitivity to these allergens and the body's reaction to them may not be as severe. It is also possible to develop complications, such as sinusitis and ear infections. Allergic rhinitis is very similar to a type of asthma caused by allergies (allergic asthma).(3)

PURPOSE

The purpose of the study is to identify the main epidemiological aspects in allergic rhinitis.

METHODS

1.1. Frequency

It is a prospective study of a group of 427 patients diagnosed with allergic rhinitis and hospitalized between 01.09.2009 and 31.05.2012.

For the batches in which laser therapy has been applied, the study was conducted in the National Centre for

Acupuncture and Homeopathy Bucharest (groups B and E) and in the National Institute of Complementary and Alternative Medicine of the Ministry of Health Bucharest (groups A and C).

The classical treatment performed for the batch D was conducted within the University Hospital, where of the 139 patients, 87 patients were treated there; in Colțea Hospital 38 patients were treated and in Elias Clinic - Department of Otolaryngology (Family Medicine) 14 patients were treated (table no. 1).

Table no. 1. Patients' repartition according to the medical unit the treatment has been applied

Place of study	No. of patients
National Centre for Acupuncture and Homeopathy Bucharest	group B - 79 patients group E - 74 patients
National Institute of Complementary and Alternative Medicine of the Ministry of Health Bucharest	group A - 68 patients group C - 67 patients
University Hospital	group D - 87 patients
Colțea Hospital	group D - 38 patients
Elias Clinic - Department O.R.L.	group D - 14 patients
Total	427 patients

RESULTS AND DISCUSSIONS

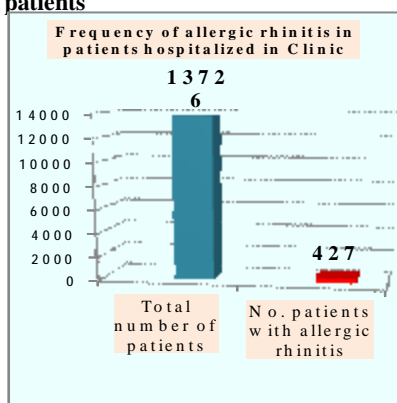
During the above mentioned period of time, a number of 13 726 patients were hospitalized in those 5 centres, of which 427 (3.1%) were diagnosed with seasonal allergic rhinitis (figure no. 1).

¹Corresponding author: Costescu Cristian Ilie, Str. Sf. Apostol Andrei, Nr. 40, Bl. D 19-20, Ap. 60, Oradea, România, E-mail: kryssmd@yahoo.com, Tel:+40744 211772

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CLINICAL ASPECTS

Figure no. 1. Frequency of allergic rhinitis in the hospitalized patients



The criteria by which the patients were included in the study were the following:

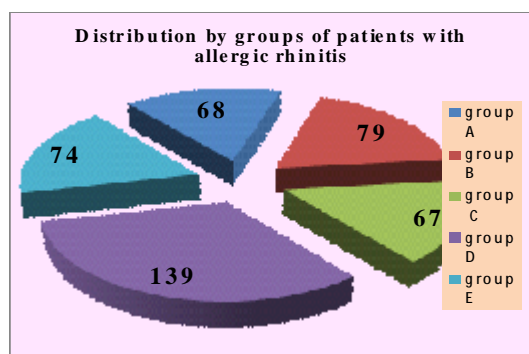
- patients with seasonal allergic rhinitis (perennial) untreated;
- patients with allergic rhinitis under allopathic treatment.

The exclusion criteria were as follows:

- patients older than 10 years old;
- patients older than 70 years old;
- patients with nasal polyps;
- patients with nasal septum deviation;
- patients with eosinophilic non-allergic rhinitis;
- patients with adenoidi hypertrophy;
- patients with infectious rhinitis;
- patients with atrophic rhinitis.

The 427 patients with allergic rhinitis were divided into five study groups, numbered from A to E, each group having a number of patients according to their addressability to the doctor and their consent to be included in the study (figure no. 2).

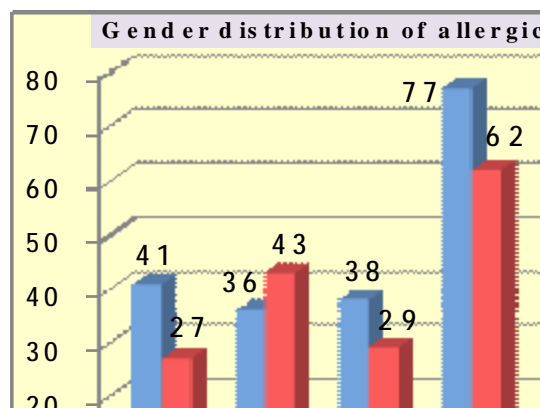
Figure no. 2. Distribution of the patients with allergic rhinitis by group



1.2. Gender

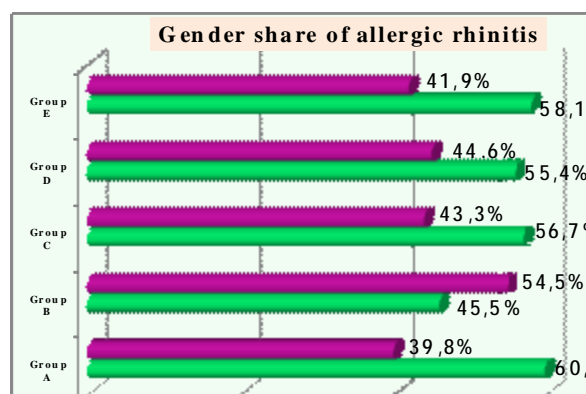
The gender ratio of allergic rhinitis shows a female predominance. Thus, in group A, there is a number of 41 cases of allergic rhinitis in women, representing a rate of 60.2% of the total number of cases (68) in this group. In group C, we see a number of 38 cases in women, representing a rate of 56.7% of the total number of cases (67) in this group. Group D has a number of 77 cases in women, i.e. a rate of 55.4% of the total number of cases (139) of this group, and group E has also a predominance of the disease in women, noticing a number of 43 cases, representing a rate of 58.1% of the total number of patients (74) in this group (figure no. 3).

Figure nr. 3. Gender distribution of allergic rhinitis



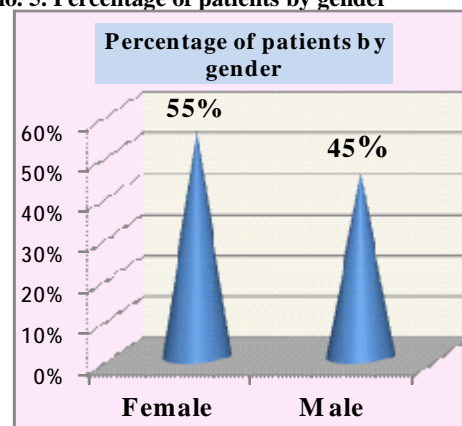
The batch B is the only batch where there is an exception; in this group, allergic rhinitis is predominant in males, registering a total of 43 cases and a rate of 54.5% of the total number of patients in this group, compared to 36 cases in women, representing a percentage of 45.5% of cases in this group (figure no. 4).

Figure no. 4. Gender share of allergic rhinitis



Regarding the gender distribution of the total number of patients (427) of the five groups, in table no. 4 and figure no. 5, one can see that allergic rhinitis is prevalent in women, where there is a total of 235 patients, representing a rate of 55%. In males, this condition was found in a number of 192 patients, i.e. 45% of the total number of patients in the five groups (figure no. 5). These data mainly affecting the female gender are consistent with the literature data.

Figure no. 5. Percentage of patients by gender



1.3. Age

The distribution of allergic rhinitis according to the age groups is shown in table no. 5 and figure no. 6. It can be seen that in group B, the highest incidence is in the age group between 20 and 29 years old, with a total number of 19 patients and accounting for 27.9% of the total number of patients in this group (68 patients), followed by the age group between 10 and 19 years old, with a total number of 15 patients and accounting for 22.1% of all patients of this group. After the age of 30, there is a decrease in the number and percentage of the patients who have this condition, so in the 30-39 years age group, the allergic rhinitis share is of 20.5%, a significant statistical decrease, while in the age group between 60 and 70 years old, the weight is of 7.4%.

Almost the same results are found in group B as in group A, except that the weight of allergic rhinitis is of about 3% higher in the age group between 10 and 19 years old and in the group between 20 and 29 years old.

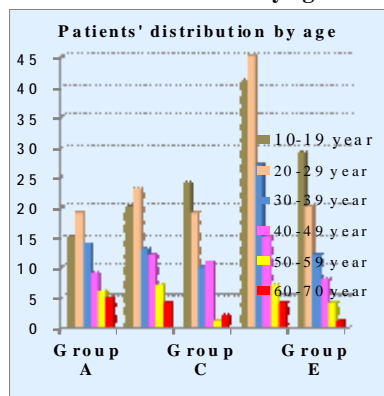
In group C, it is observed that the age group between 10-19 years old is most represented, with a total number of 24 patients and a rate of 35.8% of the total number of patients in this group. The age group between 20 and 29 years old is represented by a number of 19 patients, representing a rate of 28.4% of all patients of this group.

Approximately one third of the patients is represented by the age groups between 30-39 years old and 40-49 years old, while the age groups between 50-59 years old and 60-70 years old had the smallest share of 1.5% (1 patient), respectively, 3% (2 patients) of the total number of patients in this group.

Batch D shows a higher percentage of the allergic rhinitis share in the age group between 20 and 29 years old, with a total number of 45 patients, representing a rate of 32.4%, followed by the age group between 10-19 years old, with a total number of 41 patients and accounting for 29.5% of the total number of patients of this group (139 patients). Starting from the age group between 30-39 years old, the percentage of patients with allergic rhinitis is decreasing from 19.3% (27 patients) as it is in this group to 2.9% (4 patients) in the age category of 60 - 70 years old.

The results obtained in group E shows that allergic rhinitis is more common in the age group between 10 and 19 years old, where there is a total of 29 patients and a rate of 39.1% of all patients of this group. On the second place, we find the age category between 20-29 years old, where a number of 20 patients, representing 27% of all patients of this group can be found, percentage that is decreasing with increasing age, leading to the age group between 60 and 70 years old, to register a rate of 1.4% (1 patient) (figure no. 6).

Figure no. 6. Patients' distribution by age

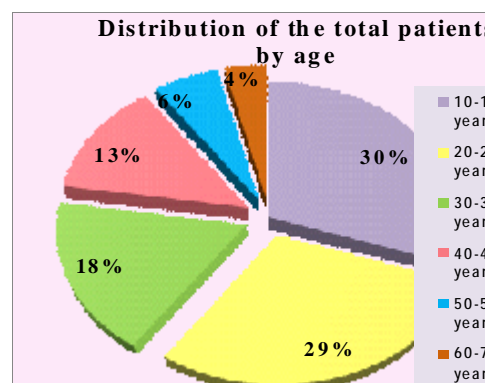


Regarding the distribution by age of the total number of patients (427 patients) in the five groups shown in table no. 7 and figures no. 7, 8, one can see that the age group between 10 and 19 years old is best represented, with a total number of 129 patients and a rate of 30.2%.

With a slight difference from the previous age group, the age group between 20 and 29 years old can be found, where there have been 126 cases of allergic rhinitis, with a share of 29.5%. In the age groups between 30 and 39 years old, and 40-49 years old, a number of 76 and, respectively 55 cases of allergic rhinitis were found, with a share of 17.8% and 12.9% of the total cases. By analysing the data, allergic rhinitis appears to affect the population aged less than 50 years, since the age group between 50-59 years old registered 25 cases, representing a rate of 5.9% of all cases of allergic rhinitis. This percentage decreases with increasing age, so that the patients aged 60 to 70 years old were found only in 16 cases, accounting for 3.7%.

According to the available data, allergic rhinitis affects mainly the people less than 30 years old, where there were a total of 255 patients, representing a rate of 59.7% of the total number of cases of allergic rhinitis (427 patients) (figure no. 7).

Figure no. 7. Distribution of the total number of patients by age



CONCLUSIONS

1. Allergic rhinitis is more common in women.
2. Patients with allergic rhinitis present a history of allergic disorders.
3. Allergic rhinitis is more common in children and young adults.
4. Conventional drug therapy has reduced effects compared to laser therapy in allergic rhinitis.
5. Complete remission of symptoms of allergic rhinitis after the laser therapy is almost double than that of drug therapy.
6. In the drug treated patients, there were more cases without therapeutic effects, compared to those treated with laser therapy.

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